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Career tech changing with times

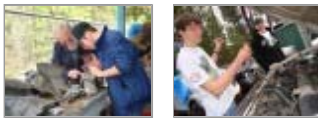
What's under the hood?

Cheri March



Cheri March/Colfax Record

ROP automotive services instructor Mark Means helps Colfax High School student Shane Elizarraraz examine an alternator the class pulled from a Nissan Maxima.



Editor's Note: This is the first in a two-part series focusing on the changing role and availability of vocational education in high schools and colleges

Of all the classes he's taken in four years at Colfax High School, Luke Eaton will remember auto shop most fondly.

"This is the best class at this school because it actually prepares you for a job and teaches you skills you can use," Eaton said.

Eaton is considering enrolling in the diesel technology program at Sacramento's Universal Technical Institute after he graduates this spring.

Roughly half the students in instructor Mark Means' auto class — a part of Placer County's Regional Occupation Program — go on to related careers. But that doesn't mean the other 50 percent won't reap benefits.

"You also learn how to diagnose (your vehicle)," Eaton said. "So you know what's going on when you take it in to the shop."

"You can save money," added Ryan Habenicht, 17. "I can work on my own truck and change my own oil."

As Means likes to point out, everyone drives a car.

"Even though the industry is changing, we are still going to need technicians to work on cars, buses, trucks, airplanes, trains," said Means, a former master technician for Ford. "We need people who can use their hands and their heads to think out diagnostics. When you're talking about hybrids or about different braking systems, the technology changes every year."

There are currently more than 5,000 automotive service jobs in the Placer County area, with expected growth rate of 16.5 percent, said Steve Smith, chair of the automotive technology department at Sierra College. Yet Sierra College trustees recently considered closing the automotive program — along with two other career-related departments, construction and agriculture — due to budget cuts.

"Vocational training equates to jobs," Smith said. "The slow economy increases the need for repairs and maintenance of older vehicles. Closure of the Sierra College vocational programs would have a serious affect on our area high school programs. With limited training opportunities beyond high school, many high school programs would likely be closed."

There's no question that a market exists for vocational skills like auto shop, electronics and design and construction. But as more schools opt to route money into academics and away from career training, the real question might be: Does society value that need?

Colfax resident and retired Sierra College electronics instructor Steve Hunter doesn't think so.

"Our society has allowed us to become technically illiterate on the basic principles needed to design, install and repair systems necessary to support our infrastructure," said Hunter, who also acts as an industry consultant. "People think technological literacy is being able to use an iPhone."

Baby boomers who received good technological education in the 50s, 60s and 70s filled the need for years — and allowed communities to avoid putting money into career-related training.

But now the boomers are retiring, and there's no one to replace them. The U.S. workforce is trailing behind Europe and Asia in technological education, Hunter said.

To reverse the problem, we might need to reverse our attitudes.

"We need to realize that these positions are necessary and respectable," he said. "In this country, we don't see them as honorable. In Japan, anyone is as honorable as any other employee. If (they) hire someone it's because they're needed, whether it's the plumber or a CEO."

Hunter said Sierra College provides many progressive education opportunities – for instance, a mechatronics program that rivals any in the nation. Sierra still offers engineering support courses, and the automotive and construction programs haven't actually been canceled, though they will likely be reevaluated – a step Hunter feels is necessary to stay technologically relevant.

Meanwhile, Colfax High School programs like electronics, computers and auto, wood and metal shops –and a career tech course that combines elements of them all – are picking up the slack.

"You're actually learning horsepower, you're learning torque, you're learning gear ratio – you can see the math," Hunter said.

Auto shop students must know math to take measurements with micrometers, calculate labor rates and adjust crankshaft bearing clearance, for example.

In fact, most vocational courses require – and help develop – math skills.

"You can't really do any design work or any CAD/CAM work without a very good grasp of math," said Colfax High School design and construction teacher Jonathan Schwartz. "A lot of kids actually start putting math together in a design and construction class. You really develop a number sense, which is the best math skill you can have.

A study by the California Teachers Association showed that 95 percent of students who take career technical education classes go on to graduate. Low-achieving students who enrolled in a CTE program pulled their GPAs up from 1.2 to 2.3 on average.

Maybe it's because students see the relevancy of the material. Maybe it's because they develop new interests. Whatever the reason, it's rewarding for instructor Mark Means to watch.

"A lot of these kids haven't even worked on a bicycle before (taking auto shop)," Means said. "But once they get the idea, they're pulling engines and transmissions, learning codes, learning to read all the monitors so they can do emissions tests so they don't have to be the kid who is changing oil."